

SOV/89-6-3-13/29

21(5)

AUTHORS: Gverdtsiteli, I. G., Tskhakaya, V. K.

TITLE: Separation of the Heavy Isotopes of Carbon, Sulfur, Krypton, and Neon by Diffusion in a Vapor Current (Polucheniye tyazhelykh izotopov ugleroda, sery, kriptona i neona metodom diffuzii v potoke para)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 3, pp 329-330 (USSR)

ABSTRACT: The used apparatus consists of 80 separation pumps made of glass. They contain steel cylinders of a height of 50 mm and a diameter of 16 mm forming the external skeleton of the diaphragms which have a thickness of 0.3 mm. The number of the openings in the diaphragms with a diameter of 0.4 mm is 500. The total length of the cascade is ~6 m. Mercury was used as working liquid. The performance of the electric furnace for each pump is on the average 140 w. In order to fill the cascade at a pressure of 10 torr ~90 normal-cm³ gas is necessary. In the separation of sulfur isotopes SO₂ and in the separation of carbon CH₄ was used. With these substances as well as in the separation of krypton, working pressure was 12 torr. The equilibrium state was attained with-

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in less than 15 hours. The separation coefficients for a stage of separation furnished the following values:

system of isotopes	coefficient of separation
$S^{34}O_2 - S^{32}O_2$	1.036
$S^{36}O_2 - S^{32}O_2$	1.057
$C^{13}H_4 - C^{12}H_4$	1.095
$Kr^{86} - Kr^{84}$	1.033
$Ne^{22} - Ne^{20}$	1.16 - 1.2

The separation of sulfur isotopes was carried out in 2 cycles. In the first cycle S^{34} was enriched up to 20% (initial concentration 4.18%) and S^{36} to 0.66% (initial concentration 0.016%). Within 24 hours 80 normal-cm³ were obtained. In the second cycle S^{34} was enriched up to 45% and S^{36} to 5.5%. The enrichment of krypton equally took place in two cycles.

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In the first cycle Kr⁸⁶ could be pushed up to 60% (initial concentration 17.5%). For this case 60 normal-cm³ were produced within 24 hours. In the second cycle Kr⁸⁶ was obtained in a concentration of ~92% and with a separation of 30 - 40 normal-cm³ within 24 hours. For the separation of carbon isotopes C¹³H₄ in an initial concentration of 2.7% was used as starting material. The enrichment was carried out by means of a device in which only 70 pumps were connected in series. In a separation of 30 normal-cm³ within 24 hours a maximum concentration of C¹³H₄ of ~90% and at a separation of 130 normal-cm³ within 24 hours of ~75% could be obtained. There are 2 references, 1 of which is Soviet.

SUBMITTED: August 9, 1958

Card 3/3

ISKHAKAYA, V.K.

FRASE . NON EXPLORATION 807/713

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958
Doklady sovetskikh uchenykh: Plucheniye i primeneniye izotopov (Reports of Soviet Scientists: Production and Application of Isotopes) Moscow, Atomizdat, 1959. 368 p. (Series: Na; Trudy, vol. 6) 8,000 copies printed.

Eds. (Title page): G.V. Karymov, Academician, and I.I. Korikov, Corresponding Member, USSR Academy of Sciences; Ed. (Inside book): Z.D. Andreyenko; Tycha, Ed.: Z.D. Andreyenko.

PURPOSE: This book is intended for scientists, engineers, physicists, and biologists engaged in the production and application of atomic energy to peaceful uses; for professors and graduate and postgraduate students of higher technical schools whose main or secondary specialty is in one of the general public interested in atomic science and technology.

COVER: This is volume 6 of a 6-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy held in Geneva from September 1 to 13, 1958. Volume 6 contains 52 reports on: 1) nuclear energy, 2) research results obtained with the aid of isotopes in the field of chemistry, metallurgy, medicine, biology, and agriculture, and 3) chemistry of ionizing radiation. Volume 6 was edited by V.K. Iskhakaya, Candidate of Physical Sciences, V.I. Prusakov, Candidate of Chemical Sciences, and V.V. Sedov, Candidate of Medical Sciences. See 504/2081 for titles of volumes of the set. Entries occur appear at the end of the articles.

3. Yankovsky, G.M., and V.B. Delev. Means of Developing Remote Control Methods in the Radiochemical Laboratories of the AN SSSR (Report No. 2028)

4. Ballov, M., A.G. Zolotarev, A.B. Prukov, and Z.B. Denilov. Control of the Fraction of Deuterium by the Low-Temperature Distillation Method (Report No. 2023)

5. Gerasimov, I.G., R.Ya. Kucheryov, and L.K. Babitskiy. Separation of Isotopes by Diffusion in a Steam Flow (Report No. 2026)

6. Zolotarev, V.S., A.I. Il'in, and Ye.G. Kozak. Separation of Isotopes on Electromagnetic Units in the Soviet Union (Report No. 2005)

7. Alabeyev, B.A., B.V. Balugin, V.S. Zolotarev, B.V. Pavin, Ye.S. Chernomurov, and G.I. Shchepkin. Separation of Isotopes of Rare-earth Elements by the Electromagnetic Method (Report No. 2211)

8. Kuznetsov, P.M., B.M. Makov, M.S. Joffe, B.D. Brezhnev, and G.M. Franklin. Ion Source for the Separation of Stable Isotopes (Report No. 2001)

9. Bevilin, M.V., and P.M. Morozov. Electric Field Effect in Ion Beams on Stable Isotope Separation by the Electromagnetic Method (Report No. 2004)

10. Bogdanova, M.G., P.L. Grusin, G.I. Yermolayev, and I.D. Shtalinskiy. Use of Radioactive Isotopes in Metallurgical Research (Report No. 2216)

11. Shchepkin, G.I., V.A. Yemshikovskiy, and I.M. Takser. The Theory and Practice of Balley-type Instruments Based on Radioactive Isotopes (Report No. 2222)

12. Zaslavskiy, Yu.S., G.I. Zhur, and R.M. Shmyrnova. Studying the Mechanism of Protection of Rubbing Surfaces Against Wear Due to Corrosion (Report No. 2198)

13. Baryshnikov, S.V., and L.M. Matyuk. The ²¹⁰Pb, ²¹³Bi, and ²¹⁴Pb as Sources of Radiation for Checking Thin-film Products (Report No. 2205)

14. Bakh, B.I., A.S. Zavyalov, and G.I. Kopylov. Studying the Distribution of Elements in Metal Alloys and Metal Compounds by Autoradiographic and Radiometric Methods (Report No. 2226)

15. Grusin, P.L., A.I. Yermolayev, V.G. Yemshikovskiy, G.G. Ryabov, G.B. Fedorov. Studying the Diffusion and Distribution of Elements in Alloys of Zirconium and Niobium Base by the Radioactive Isotope Method (Report No. 2176)

TSKHAKAYA, V. K.

PHASE I BOOK EXPLOITATION SOV/1297

Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i ikhuchenly v narodnoye khozyaystvo i nauku, Moscow, 1957

Polumenlye izotopy. Moshnyye gamma-ustanovki. Radiometriya i dosimetriya; trade konferentsii. (Isotope Production. High-energy radiation facilities. Radiometry and Dosimetry. Trade conferences of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science). Moscow, Izd-vo AN SSSR, 1958. 293 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR; Glavnoye upravleniye po ispol'zovaniyu atomnoy energii SSSR.

Editorial Board: Frolov, Yu.S. (Resp. Ed.), Zhavoronkov, M.M. (Deputy Resp. Ed.), Aglintsev, K.K., Aleksyev, B.V., Bobkharov, V.V., Leshchinskiy, N.I., Malkov, T.P., Shikhtyn, V.I., and Popova, G.L. (Secretary); Tech. Ed.: Novichkov, N.D.

PURPOSE: This collection is published for scientists, technologists, persons engaged in medicine or medical research, and others concerned with the production and/or use of radioactive and stable isotopes and radiation.

COVERAGE: Thirty-eight reports are included in this collection under three main subject divisions: 1) production of isotopes; 2) high-energy gamma-radiation facilities; and 3) radiometry and dosimetry.

TABLE OF CONTENTS:

PART I. PRODUCTION OF ISOTOPES

Frolov, Yu.S., V.V. Bobkharov, and Ye.Ye. Kulish. Development of Isotope Production in the Soviet Union 5
This report is a general survey of production methods, apparatus, raw materials, applications, investigations and future prospects for radio isotopes in the Soviet Union.

Card 2/12

Aleksyevskiy, N.Ye.; A.V. Dubrovin, G.I. Kosoury, S.M. Spalyanin, G.P. Prudkovskiy, S.I. Filimonov, V.I. Chekin, V.M. Spectro- (deceased), and T.K. Shuvalova. Utilization of Mass Spectrometers With a Homogeneous Field for Analyzing Isotopes of Light Elements 73

Ordzhonikidze, K.G., and G.M. Zubarev. Relative Propagability of Palladium and Germanium Isotopes 78

Rosen, A.M. Some Problems on the Theory of Isotope Separation 86

Ovretskiy, I.G., and V.K. Tskhakaya. Separation of Isotopes of Light Elements by Diffusion in Vapors 113

Barrikh, G.P., and R.Ya. Kucherov. A Diffusion Column for Separating Isotopes 122

Card 5/12

TSKHAKAYA, Yu.K.

Following Gaganova's example. Neftianik 5 no.2:7 F '60.
(MIRA 14:10)

(Tatar A.S.S.R.—Oil well drilling) (Georgia—Bitumen)

TSKHAKAYA, Z. A.

Operative cholangiography and manometry of the biliary tract.
(MIRA 15:4)
Khirurgia 37 no.7:51-55 J1 '61.

1. Iz 2-y kafedry khirurgii (zav. - prof. B. K. Osipov) Tsentral'-
nogo instituta usovershenstvovaniya vrachey (Moskva).

(BILIARY TRACT—RADIOGRAPHY)

TSKHAKAYA, Z.A.

Manometry and cholangiography in diseases of the biliary tract.
Trudy TSIU 2:256-263 '61. (MIRA 15:8)
(BILIARY TRACT--DISEASES) (GALL BLADDER--RADIOGRAPHY) (MANOMETER)

TSPHALANZE, G. M., Professor and Associates.

"The Association of Leucoderma and Alopecia with Injuries to Nerves."

Vestnik venerologii i dermatologii (Bulletin of Venereology and Dermatology),
No 1, January-February 1954 (biomper), Moscow.

SHOSTAK, F.T.; BESMAN, V.L.; SHISHLYANNIKOV, L.A.; TSKHAY, A.A.; LYUBMAN N. Ya.;
KATSOVICH, F.A.

Study of critical velocities for the labyrinth-type electro dialyzers in
the process of water demineralization. Trudy Inst. khim. nauk AN Kazakh.
SSR 11:170-175 '64.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757120016-1

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757120016-1"

TSKHAY, M. S.

USSR/Chemistry

Card 1/1

Authors : Zhdanov, V. A., and Tskhay, M. S.

Title : Theory of the Nickel-Arsenide Structures.

Periodical : Zhur. Fiz. Khim. Vol. 28, 688-691, Apr 1954

Abstract : The author presents formulas for determination of mechanical stability binding forces and genetic bonds between the NiAs and Ni₂In structures. The determination of equilibrium of the above structures, is performed with Eval'd's method. Six references; graphs.

Institution : Siberian Physico-Chemical Institute at V. V. Kuybyshev's State University, Tomsk.

Submitted : June 25, 1953

S/051/62/012/004/011/015
E039/E485

AUTHOR: Tskhay, N.S.
TITLE:

PERIODICAL: Optika i spektroskopiya, v.12, no.4, 1962, 524-526
Thermodynamic calculations on the concentration of metal atoms and the flame temperature

TEXT: In order to elucidate possible reasons for the change in concentration of atoms in the flame due to a displacement of thermal equilibrium of chemical reactions, thermodynamic calculations were carried out on the concentration of Na and Sr atoms in an acetylene-air flame and the corresponding flame temperatures. These elements were assumed to be added in the form of chloride solutions and other compounds. In the case of Na the reaction: $Na + Cl \rightleftharpoons NaCl$ was investigated and in the case of Sr, Ca and Mg the reaction $M + O \rightleftharpoons MO$. Thermal conduction and radiation losses were not taken into account. The calculated results show good agreement with the experimental data. There is little change in flame temperature when the various solutions are added. The partial pressure of the products of combustion also do not depend on the presence of metals in the flame. The calculated Card 1/2

Thermodynamic calculations ...

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concentration of Na and Sr does not show any dependence on the presence of supplementary compounds. In the case of Na this agrees with experiment. In the case of Sr experiment shows an increase in concentration of about 35% with the introduction of CaCl_2 , which suggests that the determination of the concentration of atoms is more complex than the calculation suggests. It is shown that in the flame, compounds of Na are practically completely dissociated while compounds of Sr show very little dissociation. There are 3 tables.

SUBMITTED: September 5, 1961

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SOV/51-7-2-2/34

AUTHORS: Tskhay, N.S. and Mandel'shtam, S.L.

TITLE: On the Influences which Affect the Intensity of Lines in the Flame Spectrum (O vliyaniyakh na intensivnost' spektral'nykh liniy v spektre plameni)

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 2, pp 141-151 (USSR)

ABSTRACT: The authors studied changes in the intensities of the lines in the flame spectra of sodium and strontium when the form of the compound used to introduce the element was altered and the changes which occurred on introduction of compounds of other elements. To find the reasons for these changes it is necessary to investigate the variations produced in the density of free sodium or strontium atoms in the flame and the variations in the conditions of excitation of these atoms. The method of anomalous dispersion was used to measure the densities of atoms in the flame. The apparatus used is shown schematically in Fig 1a; it is based on D.S. Rozhdestvenskiy's interferometer. To measure the densities of atoms at various distances from the axis of an acetylene flame (1 in Fig 1a) the interference fringes were localized at the centre of the flame parallel to its axis. By means of three plane mirrors 2, 3, 4 and a lens 5, the flame and the interference fringes were projected on to

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On the Influences which Affect the Intensity of Lines in the Flame Spectrum

a spectrograph slit 6, at right angles to the latter. A three-prism spectrograph ISP-51 was used. Solutions of the compounds employed were injected into the flame by means of an atomizer of the usual type. The flame diameter was 11 mm when Na, K or Mg were introduced into it, 9 mm for Li and 7 mm when Sr, Ca and Ba were used. The densities of atoms were measured at a height of 15 mm above the blue part of the flame. The experiment consisted of measuring the displacement of the interference fringes near an absorption line of the element studied. The change in the refractive index of the flame which produced this displacement is related directly to the atom density N by Sellmeier's formula. The displacement of the interference fringes was measured with a microscope with an error of 15%. Apart from the atom density N which was a mean across the flame, the authors determined also the distribution of atoms across the flame by measuring the displacement of the interference fringes at various distances from the centre of the flame. The authors recorded also photographically the intensities of the atomic lines and they measured the flame temperature (using self-reversal of the lines). First the authors studied the effect of the compound which was used to introduce sodium or strontium. Sodium atoms were introduced in the form of NaCl , Na_2CO_3 and Na_2SO_4 and strontium atoms were introduced as

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On the Influences which Affect the Intensity of Lines in the Flame Spectrum

SrCl_2 and $\text{Sr}(\text{NO}_3)_2$. Displacement of the central interference fringe was measured at distances of 1.3 and 2.6 Å from a sodium line at 5890 Å and at a distance of 0.52 Å from a strontium line at 4607 Å. Secondly the effect of MgCl_2 , CaCl_2 , SrCl_2 and BaCl_2 on the density of sodium atoms in the flame and the effect of NaCl and CaCl_2 on the density of strontium atoms in the flame were investigated. The authors measured the displacement of the central interference ring at a distance of 1.3 Å from a sodium line at 5890 Å and at a distance of 0.52 Å from a strontium line at 4607 Å. The results (Figs 2-7) show that the changes in the intensities of sodium and strontium lines, under conditions discussed above, are due to simultaneous effect of two factors: (1) a change in the free atom density in the flame due to a change in the rate of supply of the solution and (2) a change in the conditions of excitation due to a change in the flame temperature. This conclusion is confirmed by theoretical calculations. There are 8 figures and 16 references, 5 of which are Soviet, 5 English, 1 German, 1 Dutch, 2 Swedish and 2 others.

SUBMITTED: September 9, 1958

Card 3/3

TSKHAY, N.S.

Thermodynamic calculations of the concentration of metal atoms
and the flame temperature. Opt. i spektr. 7 no.4:524-526 Ap
'62. (MIRA 15:5)
(Sodium--Spectra) (Strontium--Spectra) (Flame)

NUMBERS: 06111; P. V.; Tsknay, X. A.

space distribution. It was determined that within the limits

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TSKHAN, V.A.; GIL'IN, P.V.

Effect of shielding on phase and structural properties of cubical
carbides of the fifth group transition metals. Zhur. fiz. khim.
39 no.5:1150-1156 My '65. (MIRA 18:8)

GEL'D, P.V.; TSKHAY, V.A.

Topography of the vacancies in the structure of NaCl. Zhur. strukt.
of the IV and V groups with the structure of NaCl. (MIRA 18:5)
khim. 5 no.4:576-582 Ag '64.

1. Institut khimii Ural'skogo filiala AN SSSR, Sverdlovsk.

TSKHAY, V.A., GEL'D, P.V.

Shielding of Me-Me bonds in equiatomic transition metal oxides and carbides with a NaCl structure. Fiz. met. i metalloved. 16 no. 3:493-494, S '63.

Homogeneity concentration areas of the IV and V group transition metals with a NaCl structure. 495-496 (MIRA 16:9)

1. Institut khimii Ural'skogo filiala Akademii nauk SSSR.

TARASOV, A.I.; TSKHAY, V.A.; SPASSKIY, S.S.

Composition equations for three-component copolymers. Part 2.
Vysokom. soed. 3 no.1:17-20 Ja '61. (M.I.A. 14:2)

1. Institut khimii Ural'skogo filiala AN SSSR.
(Polymers)

Adsorption Heat of Hydrogen on Some Types of Ionic
Lattices

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SOV/76-33-10-19/45

only the bond energy is considered that depends on the superimposition of the electron clouds of the atom and the lattice since this is a specific feature of chemisorption (Ref 3). Calculations are given in three sections for the electron state of the system during the adsorption, adsorption heat, and the adsorption heat of hydrogen. In this connection the author makes use of Slater's function, Ewald's calculation method (Ref 10), formulas from publications by Rosen (Ref 8), and tables contained in Gel'man's monograph (Ref 9). Results of calculation (Tables 1-3) indicate that the adsorption heat of hydrogen must decrease with a reduction of the lattice constant a_3 (within a certain interval) and rise with increasing ionization potential of atom M (the remainder of which enters the lattice as a positive ion M^+). There are 3 figures, 3 tables, and 15 references, 11 of which are Soviet.

ASSOCIATION: Pedagogicheskiy institut, Sverdlovsk (Pedagogical Institute, Sverdlovsk)

SUBMITTED: March 19, 1958
Card 2/2

S/190/60/002/011/001/027
B004/B060

11.2210 also 2209

AUTHORS: Tarasov, A. I., Tskhay, V. A., Spasskiy, S. S.

TITLE: A Study of Equations for the Composition of Ternary Copolymers. I

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 11, pp. 1601 - 1607

TEXT: The authors wanted to find simple and practical ways of determining an azeotropic composition of copolymers. For this purpose they analyzed the equations relating to such compositions as possess a single azeotropic point. The following relations are derived for it: $m_1/m_3 = M_1^1/M_3^1$ and $m_2/m_3 = M_2^1/M_3^1$, where m_1, m_2, m_3 are the percentual concentrations, and M_1^1, M_2^1, M_3^1 the molar concentrations of the components. Taking into account the relative rate constants $r_{12}, r_{21}, r_{13}, r_{31}, r_{23}$, and r_{32} , the following system of equations is obtained for the azeotropic point:

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A Study of Equations for the Composition of Ternary Copolymers. I

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$$\left(\frac{M'_1}{r_{21}r_{31}} + \frac{M'_2}{r_{21}r_{32}} + \frac{M'_3}{r_{31}r_{32}} \right) \left(M'_1 + \frac{M'_2}{r_{12}} + \frac{M'_3}{r_{13}} \right) = 1 \quad (3a)$$

$$\left(\frac{M'_1}{r_{12}r_{31}} + \frac{M'_2}{r_{12}r_{32}} + \frac{M'_3}{r_{31}r_{32}} \right) \left(M'_2 + \frac{M'_1}{r_{21}} + \frac{M'_3}{r_{23}} \right) = 1 \quad (3b)$$

$$M'_1 + M'_2 + M'_3 = 1. \quad (3c)$$

One unknown quantity is suppressed by introducing $M_1 = M'_1/M'_3$ and $M_2 = M'_2/M'_3$.

Moreover, in order to avoid fractions, the reciprocal values of the relative rate constants are introduced: $A_{12} = 1/r_{12}$, $A_{21} = 1/r_{21}$, etc., and the system of equations (7) is obtained:

$AM_1^2 + 2BM_1M_2 + CM_2^2 + 2DM_1^2 + 2EM_2 + F = 0$; $A_1M_1^2 + 2B_1M_1M_2 + C_1M_2^2 + 2D_1M_1 + 2E_1M_2 + F_1 = 0$. The coefficients of these equations are defined as: $A = A_{21}A_{31}^2$; $2B = A_{21}A_{32}^2 + A_{12}A_{31}^2$; $C = A_{12}A_{32}^2$; $2D = A_{23}A_{31}^2 + A_{21}A_{13}^2$; $2E = A_{12}A_{23}^2 + A_{13}A_{32}^2$; $F = A_{13}A_{23}^2$; $A_1 = A_{21}A_{31}^2$; $2B_1 = A_{21}A_{32}^2 + A_{12}A_{31}^2$; $C_1 = A_{12}A_{32}^2$; $2D_1 = A_{23}A_{31}^2 + A_{21}A_{13}^2$; $2E_1 = A_{12}A_{23}^2 + A_{13}A_{32}^2$;

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A Study of Equations for the Composition of Ternary Copolymers. I

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$F = A_{13}A_{23}l_3$; $l_1 = 1 - A_{13}$; $l_2 = A_{21} - A_{23}$; $l_3 = A_{31} - 1$; $l_1' = A_{12} - A_{13}$; $l_2' = 1 - A_{23}$; $l_3' = A_{32} - 1$. The authors derived the criteria under which only positive values are obtained for equations (7). It is confirmed that only one single azeotropic point can be present in the ternary system. The following systems with azeotropic composition are tabulated:

System	Copolymerization constants						Azeotropic composition in molar fractions
	r ₁₂	r ₂₁	r ₁₃	r ₃₁	r ₂₃	r ₃₂	
styrene with vinylidene dichloride and dimethyl fumarate	2.0	0.14	0.3	0.07	12.2	0.046	0.529 0.093 0.378
methyl methacrylate with 2,5-dichloro styrene and acrylonitrile	0.44	2.25	1.35	0.18	0.07	0.22	0.139 0.387 0.474
styrene with 2,5-dichloro styrene and acrylonitrile	0.29	2.2	0.4	0.04	0.07	0.22	0.467 0.153 0.380

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A Study of Equations for the Composition of
Ternary Copolymers. I

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B004/B060

There are 1 figure, 1 table, and 6 references: 2 Soviet and 4 US.

ASSOCIATION: Institut khimii Ural'skogo filiala AN SSSR (Institute of
Chemistry of the Ural Branch of AS USSR)

SUBMITTED: January 29, 1960

Card 4/4

TARASOV, A.I.; ~~TSKHAY, V.A.~~; SPASSKIY, S.S.

Equations for the composition of three-component copolymers.
Part 1. Vysokom. soed. 2 no. 11:1601-1607 H '60.
(MIRA 13:11)

1. Institut khimii Ural'skogo filiala AN SSSR.
(Polymers) (Systems (Chemistry))

ANTONENKO, N.K., TSKHAY, V.A.

Effect of gas-emanating properties of a mine on the size of its
main elements. Trudy Inst. gor. dela AN Kazakh. SSR 5:16-29 '60.
(MIRA 13:8)

(Mine gases) (Coal mines and mining)

ANTONENKO, N.K.; TSKHAY, V.A.

Determination of spacing between intermediate entries. Izv. AN
Kazakh. SSR. Ser. gor dela no.2:3-8 '58. (MIRA 12:10)
(Mining engineering)

GEL'D, P.V.; TSKHAY, V.A.

Average densities of valence electrons in FeO_x , VO_x , and TiO_x .
Zhur.strukt.khim. 4 no.2:235-244 Mr-Apr '63. (MIRA 16:5)

1. Ural'skiy filial AN SSSR, Institut khimii, Sverdlovsk.
(Metallic oxides) (Electrons) (Valence (Theoretical chemistry))

ALTAYEV, Sh.A.; TSKHE, P.A.

Work schedules in stopes operating on a shorter workday system.
Izv. AN Kazakh. SSR. Ser. ger. dela no.1:109-117 '59.
(MIRA 12:9)

(Mine management)

YATSENKO, I.S.; TSKHE, P.A.

Experience of Karaganda Basin mines in operating without special
gasmen. Ugol' 36 no.7:44-46 J1 '61. (MIRA 15:2)

1. Kombinat Karagandaugol (for Yatsenko). 2. KhMI AN KazSSR (for
TSkhe).

(Karaganda Basin--Coal mines and mining--Safety measures)
(Mine gases)

KASHAKASHVILI, N.V.; SHARADZENIDZE, S.A.; MALYSHEV, S.I.; CHKHEIDZE, Z.A.
GIBRADZE, Sh.S.; KHOSHTARIYA, Sh.F.; RUKHADZE, D.A.; SHARASHIDZE,
S. Sh. Primali uchastiyas SHENGELAYA, V.; OKROMCHEDLISHVILI,
Sh.; POPIASHVILI, Sh.; LOLUA, K.; MINDELI, M.; TSKHELISHVILI, D.;
GORDEZIANI, N.; ODIKADZE, Ch.; TATARADZE, Z.; KHUTSISHVILI, A.

Production and use of highly basic, open-hearth furnace sinters
from Dashkesan iron ore. Trudy GPI [Gruz.] no.4:25-32 '62
(MIRA 17:8)

TSKHOIDZE, Yu.T.

Pathogenic possibilities for regressive changes in the
histostructures of endemic goiter in Adzharistan. Soob.
AN Gruz. SSR, 38 no.1:205-208 Ap '65.

(MIRA 18:12)

TSKHOUZE, Yu.I.

Morphological characteristics of nodular goiter in endemic
foci of Adzharistan. Soob. AN Gruz. SSR 39 no.3:697-704
S '65. (MIRA 18:10)

TSKHIDZE, Yu.T.

Age-related morphological characteristics of the thyroid gland
in the endemic goiter foci of the Adzhar A.S.S.R. *Sovh. zh.*
Gruz. SSR 38 no.2:435-439 My '65. (MIRA 18:9)

73
TSKHOMARIYA, Boris Dmitriyevich; LATYSHEV, I.P., red.; KUKAREKA,
A.M., tekhn. red.

[Lake Kardyvach]Ozero Kardyvach. Krasnodar, Krasnodarskoe
knizhnoe izd-vo, 1962. 62 p. (MIRA 16:1)
(Kardyvach Lake region--Guidebooks)

GENERALIZING D.P., The Agr Sci--(1950) "Soviet Agr Sci" since ¹⁹⁴⁰
the productivity ~~of socialist agriculture~~ of socialist agriculture." Phila, 1950.
62:21 (Min of Agr USSR. Georgian) (Min of Labor and Health Agr Inst), 1950
10: (IT, 01-50, 364)

TSKHOMARIYA, N.

The main trend. Prom.koop. 13 no.3:15 Mr. '59.

1. Predsedatel' pravleniya Abkhazpromsoвета, Sukhumi.
(Abkhazia--Chemical industries)

(MIRA 12:4)

TSKHOMELIDZE, N.F.; GIORGOBIANI, R.P.

Effectiveness of treating atherosclerosis and chronic coronary
insufficiency at the Kobuleti health resort. Sbor. trud. Gos,
nauch.-issl. inst. kur. i fizioter. 26:87-92 '63.
(MIRA 17:5)

TSULADZE, L.Ye., otv. red.; KUROVSKIY, A.A., prof., red.;
KARZINKIN, G.S., prof., red.; VINGRADOV, K.A., prof.,
red.; MESHKOVA, T.M., doktor biol. nauk, red.;
TSKHOMELIDZE, O.I., kand. biol. nauk, red.

[Transactions of the First Scientific Conference Dedi-
cated to the Study and Use for Fisheries of the Inland
Bodies of Water of Georgia] Trudy Nauchnogo soveshchaniya
posviashchennogo izucheniiu i rybokhoziaistvennomu ispol'-
zovaniiu vnutrennikh vodoemov Gruzii, Batumi, Nauchno-issl.
Rybokhoziaistvennaya stantsiya Gruzii, 1963. 161 p.

(MIRA 17:7)

1. Nauchnoye soveshchaniye, posvyashchennoye izucheniyu i
rybokhozyaystvennomu ispol'zovaniiyu vnutrennikh vodoyemov
Gruzii, Ist, Batum, 1961. 2. Direktor Nauchno-issledova-
tel'skoy Rybokhozyaystvennoy stantsii Gruzii (for TSuladze).

TSKHOMELIDZE, O.I.

Biochemical composition of plankton in the eastern part of the
Black Sea. Soob.AN Gruz.SSR 21 no.2:147-150 Ag '58.
(MIRA 12:6)

✓
1. Sovet narodnogo khozyaystva SSR, Upravleniye myaso-molochnoy
i rybnoy promyshlennosti, Nauchno-issledovatel'skaya rybekhozyay-
stvennaya stantsiya. Predstavleno akademikom P.A.Kometiani.
(Black Sea--Plankton)

TSKHOMELIDZE, O. I.

Biological foundations of efficient fishery management in the
reservoirs of western Georgia. Vop. ikht. 2 no.3:385-392 '62.
(MIRA 15:10)

1. Nauchno-issledovatel'skaya rybokhozyaystvennaya stantsiya
tresta "Gruzrybprom" soveta narodnogo khozyastva Gruzinskoy
SSR, Batumi.

(Georgia--Fisheries)

TSKHOMELIDZE, O.I., kandidat biologicheskikh nauk.

The 25th anniversary of the Georgian Biological Station. Priroda
46 no.7:110 J1 '57. (MLRA 10:8)

1. Nauchno eksperimental'naya laboratoriya Azorsko-Chernomorskogo
nauchno-issledovatel'skogo instituta rybnogo khozyaystva i Okeanografii.
(Georgia--Ichthyology)

TSKHOMELIDZE, O. I.

TSKHOMELIDZE, O. I.: "Movement and the motor apparatus in various ecological groups of flat worms." Moscow, 1955. Moscow Order of Lenin and Order of Labor Red Banner State U imeni M. V. Lomonosov, Chair of Invertebrate Zoology. (Dissertation for the Degree of Candidate of Biological Sciences)

SO: Knizhnaya Letopis' No. 47, 19 November 1955. Moscow.

RAZMADZE, T.S.; TSKHOVREBADZE, A.S.

Curves of the development of chromospheric flares. Biul.
Abast. astrofiz. obser. no.29:29-45 '62. (MIRA 16:4)

(Solar flares)

TSKHOVREBOV, I.N.; TSOMAYA, V.A., red.

[Restoration and development of the national economy of South Ossetia; collected documents and materials, 1921-1929] Vosstanovlenie i razvitie narodnogo khoziaistva Iugo-Osetii; sbornik dokumentov i materialov, 1921-1929 gg. Pod red. V.A.TSomaia. Sost. I.N.TSkhovrebov i dr. Stalinir, Gosizdat Iugo-Osetii, 1960. 560 p. (Istoriia Iugo-Osetii v dokumentakh i materialakh, 1921-1958 gg., no.1)
(MIRA 14:8)

1. Akademiya nauk Gruzinskoy SSR, Tiflis. Yugo-Osetinskiy nauchno-issledovatel'skiy institut, Stalinir.

(Ossetia--Economic conditions)

СНИЖЕНИЕ ... : ...

Снижение ... и ... (патологический лейкоцитоз; ... и ...).
Источ. госпат. 3 перел. протокол № 4.100-24 от 1966. (MIRA 18 6)

Центральная лаборатория (науч. проф. А.В.Дервин)
Тбентралногосударственная академия государственной и паралимпиады
Москва (дир. - доктор А.Я.Борисов) Филиал в ... академия
СССР, Москва.

VARGIN, V.V.; TSKHOMSKAYA, T.S.

Glasses of the system $H_2O - ZnO - Al_2O_3 - P_2O_5$ as a base of enamels
for aluminum. Zhur.prifl.khim. 35 no.11:2363-2368 N '62. (MIRA 15:12)
(Enamel and enameling) (Glass) (Aluminum)

ACCESSION NR: AT3012980

S/2501/62/000/029/0029/0045

AUTHORS: Razmadze, T. S.; Tskhovrebadze, A. S.

TITLE: Developmental curves of solar flares

SOURCE: Abastumani. Astrofizich. observatoriya. Byul., no. 29, 1962.
Issledovaniya po programme MGG i mezhdunarod. geofiz. sotrudnichestva, 29-45

TOPIC TAGS: chromosphere, solar flare, telescope AFR 2

ABSTRACT: This paper consists almost wholly of a set of curves showing the growth and decay of the nine largest flares observed in 1959 at the Abastumanskaya observatoriya (Abastumani Observatory). Data were obtained by means of the AFR-2 chromospheric-photospheric telescope with a polarizing-interference light filter having a band pass of 0.5 Å in the H α line. The method of photometric treatment has been described by T. S. Razmadze in the preceding article of the present bulletin (pp. 3-27). The graphs show duration, intensity, and area. When two centers were observed in a single flare, the intensity and area of each were plotted, but when the centers were difficult to differentiate, the values for all centers taken together were plotted. Orig. art. has: 14 figures and 1 table.

Card 1/2

ACCESSION NR: AT3012980

ASSOCIATION: Abastumani. Astrofizich. observatoriya (Abastumani Astrophysical
Observatory)

SUBMITTED: 00Oct61

DATE ACQ: 15Oct63

SUB CODE: AA

NO REF SOV: 000

ENCL: 00

OTHER: 000

Card 2/2

TSKHOVREBASHVILI, Sh.A.

A geomorphologic feature of the high mountains of the Adzhar-
Imeret Range and its causes. Soob. AN Gruz. SSR 35 no.3:601-
606 S '64. (MIRA 17:11)

TSKHOVREBASHVILI, Sh.A.

Denudation surfaces of the northern slope of the Adzhar-Inerati Range. Socb. AN Gruz. SSR 29 no.1:53-58 J1 '62.

(MIRA 18:5)

1. Institut geografii im. Vekhushti AN GruzSSR, Tbilisi. Submitted April 6, 1961.

CHIBUKHCHYAN, R.; TSKHOVREBOV, V.

Producers' cooperative societies of Georgia. Prom.koop. 13
no.10:28 0 '59. (MIRA 13:2)

1. Rukovoditel' gruppy vnedreniya proyektno-konstruktorskoy
kontory Gruzpromsoвета, Tbilisi (for Chibukhchyan); Nachal'nik
konstruktorskogo byuro Gruzpromsoвета, Tbilisi (for TSkhovrebov).
(Georgia--Art industries)

TSKHVEDADZE, P.A.

~~Problem of pleuropulmonary sarcoma.~~ Sov.med. 23 no.6:125-126
Jg '59. (MIRA 12:9)

1. Iz kafedry gosital'noy terapii (i.o.zav. - prof.A.D.
Zhgenti) Tbilisskogo meditsinskogo instituta.
(LUNG neoplasms)
(SARCOMA)

SOV/137-59-5-9842

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 52 (USSR)

AUTHORS: Mikeladze, G.Sh., Nadiradze, Ye.M., Pagava, T.A., Tskhvediani, R.N.

TITLE: Electric Smelting of Silico-Aluminum From Coke and Tkibuly Shale Cinders

PERIODICAL: Tr. In-ta metallurgii AS Georgian SSR, 1958, Vol 9, pp 59 - 68

ABSTRACT: The authors investigated the possibility of obtaining Si-Al from the coke and cinders of Tkibuly shales. The cinders contained (in %): SiO_2 54.9, Al_2O_3 30.1, Fe_2O_3 10.8. The smelts were carried out in a one-phase electric furnace of 175 kva capacity with magnesite lining. An alloy of the following composition was obtained (in %): Si 39.8, Al 30.8, Fe 26.79. The alloy can be recommended to be used as a complex deoxidizer in steel production and as a reducing agent to obtain Fe-alloys by the metallo-thermic method. The consumption of electric power under industrial conditions is 8 - 9,000 kw-hrs/ton of Si-Al; the cost of Si-Al obtained on the base of Tkibuly shales is lower than that of 75% Fe-Si. V.B.

Card 1/1

MIKELADZE, G.Sh., TSKHVEDIANI, R.N.

Carbon solubility in AMS alloys. Trudy Inst. met. i gor. dela AN
Gruz. SSR no. 8:31-42 '57. (MIRA 11:8)
(Aluminum-manganese alloys)
(Carbon)
(Solutions, Solid)

137-50-6-11658

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 61 (USSR)

AUTHORS: Mikeladze, G.Sh., Nadiradze, Ye.M., Pagava, T.A.,
Tskhvediani, R.N.

TITLE: Use of Aluminum-silicon as Reductant in Smelting Ferromanganese of Low Carbon Content (Ispol'zovaniye silikoal'yuminiya v kachestve vosstanovitelya pri vyplavke ferromargantsa s malym sodержaniyem ugleroda)

PERIODICAL: Tr. In-ta metalla i gorn. dela AN GruzSSR, 1957, Vol 8,
pp 43-51

ABSTRACT: Test heats were run in a two-electrode, single-phase, 30-40 kw furnace, magnesite lined, with a power density in the hearth of 2.7-3.6 kw/dm², employing a charge of Mn ore or converted Mn slag and lime, the reductant employed being Si-Al with 36.06% Si and 44.02% Al. It is established that when Mn ore is employed the oxidation of the Si proceeds more intensively and results in $\leq 1\%$ Si content in the alloy. This is explained by the presence of Mn₃O₄ in the ore, whereas the slag contains MnO only. Optimum results in terms of Si content in the alloy and MnO content in the waste slag when Mn slags are employed are

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137-58-6-11658

Use of Aluminum-silicon (cont.)

attained when 0.5-5 mm Si-Al is charged onto the surface of the slag introduced. The C contents of the alloy fluctuated from 0.09 to 0.34%, the higher values being the result of periodic immersion of the electrodes in the slag, which cannot be permitted to happen when the standard three-phase furnaces are used. The concentration of P in the alloy was in direct relationship to the [P] in the charge, as Al is highly reductive of P_2O_5 . When Mn slag is employed, [P] did not exceed 0.08%. The [Mn] in alloys smelted from Mn ore attained 84.64% while that in metal smelted from Mn slag attained 85.57%. Calculations of unit ore consumption per ton of alloy are presented, although it is noted that these figures may be cut down, possibly, when larger furnaces are used for the smelting. Bibliography: 3 references.

A.Sh.

1. Ores--Processing
2. Aluminum silicon--Application
3. Blast furnaces--Performance

Card 2/2

MIKELADZE, G.Sh.; NADIRADZE, Ye.M.; PKHAKADZE, Sh.S.; GOGORISHVILI, B.P.;
DGEBAUDZE, G.A.; SOLOSHENKO, P.S.; SEMENOV, V.Ye.; BARASHKIN, I.I.;
SHIRYAYEV, Yu.S.; POSPELOV, Yu.P.; KATSEVICH, L.S.; ROZENBERG, V.L.;
Prinimali uchastiye: LORDKIPANIDZE, I.S.; TSKHVEDIANI, R.N.;
DZODZUASHVILI, A.G.; DUNIAVA, A.G.; PERANSKIY, L.F.; GRITSFNYUK, Vu.V.;
ZHELTOV, D.D.; LUZANOV, I.I.; GLADKOVSKIY, V.P.; PODMOGIL'NIY, V.P.;
VOROPAYEV, I.P.; BRIKOVA, O.V.; VRUBLEVSKIY, Yu.P.; KLYUYEV, V.I.;
BAYCHER, M.Yu.; LOGINOV, G.A.; SHILIN, V.K.; POPOV, A.I.; ZASLONKO, S.I.

Industrial experiments in the smelting of 45 o/o ferrosilicon in
a heavy-duty closed electric furnace. Stal' 25 no.5:426-429 My '65.
(MIRA 18:6)

1. Gruzinskiy institut metallurgii (for Lordkipanidze, Tskhvediani,
Dzodzuashvili, Guniava). 2. Nauchno-issledovatel'skiy i proyektnyy
institut metallurgicheskoy promyshlennosti (for Brikova, Vrublevskiy,
Klyuyev). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut elektro-
termicheskogo oborudovaniya (for Baycher, Loginov, Shilin, Popov,
Zaslanko).

TSKHOVREBADZE, D.S.

Calculation of round cylindrical shells. Soob. AN Gruz. SSR
28 no.6:641-648 Je '62. (MIRA 15:7)

1. Akademiya nauk Gruzinskoy SSR, Tbilisskiy matematicheskiy
institut imeni A.M.Razmadze. Predstavleno akademikom I.N.Vekua.
(Elastic plates and shells)

TSKHOVREBADZE, D.S.

Approximate calculations for a symmetrical prismatic shell of a particular kind. Soob. AN Gruz. SSR 19 no.6:653-660 D '57. (MIRA 11:6)

1. Tbilisskiy gosudarstvennyy universitet im. Stalina. Predstavleno akademikom I.N. Vekua.
(Elastic plates and shells)

TSKHOVREBADZE, D. S., Candidate Phys-Math Sci (diss) -- "Marginal problems in the equilibrium of certain prismatic membranes". Tbilisi, 1959, published by the Acad Sci Georgian SSR. 10 pp (Acad Sci Georgian SSR, Tbilisi Math Inst im A. M. Razmadze and Computer Center), 150 copies (KL, No 22, 1959, 108)

TSKHOVREBADZE, D.S.

Approximate solution of the problem of a momental state of strain
in a prismatic shell of a particular kind. Soob. AN Gruz. SSR 20
no. 3:265-272 Mr '58. (MIRA 11:7)

1. Tbilisskiy gosudarstvennyy universitet im. Stalina. Predstavleno
akademikom I.N.Vekua.

(Elastic plates and shells)

RATNER, Ye.I.; BURKIN, I.A.; TSKHOVREBASHVILI, G.G.

Effect of molybdenum on the variation of plastid pigments in the
leaves of various plants. Fiziol. rast. 8 no.6:707-714 '61.
(MIRA 16:7)

1. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy
of Sciences, Moscow.
(Chlorophyll) (Plants, Effect of molybdenum on)

TSKHOVREBASHVILI, Sh.

Some geomorphological features of the Chkherimela River basin.
Trudy Tbil.GU 72:53-56 '59. (MIRA 15:5)
(Chkherimela Valley--Geomorphology)

TSKHOVREBASHVILI, Sh.A.

Determining the number of basic stages of level areas in mountain regions. Soob. AN Gruz. SSR 30 no.5:595-600 My '63. (MIRA 16:11)

1. Institut geografii imeni Vakhushti, AN GruzSSR. Predstavleno akademikom A.N.Dzhavakhishvili.

TSKHOVREBASHVILI, Sh.A.

Origin of the Tadzrisi Depression. Trudy Geog. ob-va Gruz. SSR
6:135-138 '63. (MIRA 17:2)

TSKHOVREBASHVILI, Sh.A.

Origin of the Atskuri-Tashiskari part of the Kura Valley. Izv.
Vses. geog. ob-va 95 no.4:360-364 JI-Ag '63. (MIRA 16:9)
(Kura Valley--Geology, Structural)

TSKHOVREBASHVILI, Shota Aleksandrovich

[In the glacial trough of the Arctic] [V ledianoi pustyne
Arktiki. Tbilisi] 1963. 49 p. [In Georgian]

(MIRA 17:5)

TSKHOVREBASHVILI, Sh. A.

Suramula River

Changes of the mouth of the Suramula River, Izv. Vses. geog. ob-va 85, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

TSKHOVREBASHVILI, SH. A.

IA 246T66

USSR/Geography - Estuary of Suramula River Jan/Feb 53

"Problem of the Changes in the Suramula River Estuary," Sh. A. Tskhovrebashvili

"Iz V-S Geograf Obsch" Vol 85, No 1, pp 93, 94

Comparison of present estuary with that studied by the Georgian geographer Vakhushti during the 1st half of 18th century. Change in position between the old and the new estuary is almost 20 km.

246T66

TSKHOVREBOV, Kh.N.

On the wings of friendship. Grazhd.sv. 19 no.12:10-12 D '62.
(MIRA 16:2)

1. Komandir korablya Tu-114.
(Cuba--Air travle)

TSKHOVRKBOV, V.

Useful initiative. Prom.koop. 12 no.12:13 D '58.

(MIRA 12:2)

1. Nachal'nik proyektno-konstruktorskoj kontory Gruzpromsoвета,
Tbilisi.

(Cooperative societies)

BAYKOVA, R.A., student V kursa; TSKHOVREBOVA, Z.L., student V kursa

Lesions of the oral mucosa in exudative erythema multiforme.
Vest.derm.i ven. 34 no.10:80 '60. (MIRA 13:11)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof.
B.M. Pashkov) Moskovskogo meditsinskogo stomatologicheskogo insti-
tuta (dir. - dotsent G.N. Beletskiy).
(ERYTHEMA) (MOUTH--DISEASES)

ZHDANOV, V.A.; TSKHAY, M.S.

Theory of the nickel -- arsenide structures. Zhur.fiz.khim.
28 no.4:688-691 Ap '54. (MLRA 7:8)

1. Sibirskiy fiziko-tekhnicheskii institut pri Tomskom gosudarstvennom universitete im. V.V.Kuybysheva.
(Crystallochemistry) (Nickel arsenide)

REZNICHENKO, V.A.; TKACHENKO, V.A.; MIKELADZE, G.Sh.; KARYAZIN, I.A.;
KOZLOV, V.M.; NADIRADZE, Ye.M.; SOLOV'YEV, V.I.; GOGORISHVILI,
B.P.; Primali uchastiye: PKHAKADZE, Sh.S.; METREVELI, A.I.;
CHIKASHUA, D.S.; KHROMOVA, N.V.; KAVETSKIY, G.D.; TSKHVEDIANI,
R.N.; ARABIDZE, T.V.

Making titanium slag in an electric closed reduction furnace.
Titan i ego splavy no.8:28-40 '62. (MIRA 16:1)
(Titanium—Electrometallurgy)

ACC NR: AF6034103 SOURCE CODE: UR/0089/66/021/004/0300/0302

AUTHOR: Tskhvirashvili, D. G.; Vasadze, L. Ye.; Tsukh, A. S.

ORG: none

TITLE: Distribution of the corrosion products of structural materials and neutron irradiation

SOURCE: Atomnaya energiya, v. 21, no. 4, 1966, 300-302

TOPIC TAGS: corrosion, neutron irradiation, boiling water reactor, aluminum, carbon steel, radioactivity measurement

ABSTRACT: The authors describe experiments on the determination of the coefficients of distribution of corrosion products of aluminum and carbon steel in an experimental apparatus made of 1Kh18N9T stainless steel irradiated with neutrons and kept under a pressure of 78—176 bar. The main purpose of the investigation was to ascertain what fraction of the corrosion products finds its way from water into steam in boiling-water reactors. The test apparatus (Fig. 1) was designed to be filled with a prescribed amount of bidistillate and kept in the reactor channel for a specified time. Samples of steam and water were then taken, and if the activity of the steam sample exceeded the background activity, the experiment was regarded as complete; otherwise, the experiment was continued. The main activity was produced by Na²⁴ in the case of aluminum and Co⁵⁸ or Fe⁵⁹ in the case of carbon steel. The experimental results were plotted in the form of the dependence of the distribution coefficient (the ratio of

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UDC: 621.039.534.4

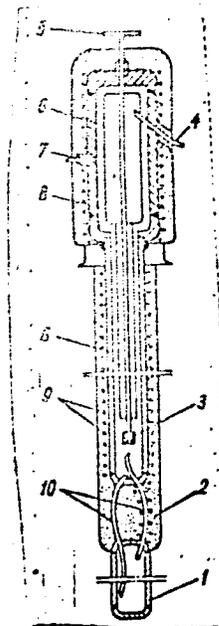
ACC NR: AF6034103

Fig. 1. Diagram of measuring apparatus. 1 - Cartridge; 2 - heat insulation; 3 - filter; 4 - steam sampling; 5 - tee; 6 - steam jacket; 7 - tube to manometer; 8 - housing; 9 - electric heaters; 10 - circulation tubes.

the activities of the samples of steam and water) on the ratio of the solvent phase densities. The distribution coefficients of Na^{24} agree well with the distribution coefficients of NaOH in the absence of neutron irradiation. In the case of steel, the distribution coefficients turn out to be close to those of the corrosion products of other heavy metals (Co, Ni, Cu, Mn, Cr). These distribution coefficients are appreciable not only at super-high pressures but also at medium pressures, and neutron irradiation has no influence on the transition of the corrosion products to the vapor state, the governing factor being the radius of the hydrate molecule, which is not changed by neutron bombardment. Orig. art. has: 4 figures.

SUB CODE: 18/ SUBM DATE: 12Mar66/ ORIG REF: 007.

Card 2/2



MARTYNOVA, O.I.; SEROV, Ye.P.; SMIRNOV, O.K.; TSKHVIRASHVILI, D.G.;
GOTSIRIDZE, V.D.

Solubility of iron oxides in steam at high and superhigh
parameters. Izv. AN SSSR. Energ. i transp. no.6:759-762
N-D '63. (MIRA 17:1)

ACCESSION NR: AP4012269

S/0089/64/016/001/0065/0067

AUTHORS: Tskhvirashvili, D. G.; Galustashvili, V. V.

TITLE: The behavior of borates and boric acid in boiling reactors.

SOURCE: Atomnaya energiya, v. 16, no. 1, 1964, 65-67

TOPIC TAGS: borates, boric acid, emergency shielding, reactors, boiling reactors, pentaborates, ammonium pentaborate, sodium pentaborate, evaporator, atomic power plants, heat carrier, neutron flux

ABSTRACT: The use of boric acid and ammonium and sodium pentaborates in the emergency shielding of a number of boiling reactors and the possible development of a liquid control system for such reactors has encouraged a study of the distribution of these substances in the liquid and vaporous phases of water. It has been established in a number of special tests that the substances present in water (NaCl and Na₂SO₄), as well as the chief corrosion product of construction materials, iron oxide, do not affect the distribution of borates and boric acid in the water. The similarity between the boric acid distribution in an active EBWR reactor and our experimental data justifies

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ACCESSION NR: AP4012269

fies the assumption that the presence of a neutron flux does not have any effect on the conversion of borates and boric acid to steam. The results of the mentioned investigation make it possible to pre-calculate the borate and boric acid balance in the heat carrier of an atomic power plant. That balance can be fully determined by the solubility of these substances in water and steam. The behavior pattern of boric acid and borates in superheated steam leads to the conclusion that they will not precipitate in the superheaters of atomic power plants with a direct cycle, nor in turbines; the borates and boric acid will be washed away by the water in view of their high degree of solubility. Orig. art. has: 3 Figures, 2 Formulas and 2 Tables.

ASSOCIATION: None

SUBMITTED: 06Apr63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: OH, PH

NR REF SOV: 003

OTHER: 002

Card 2/2

TSKHVIRASEVILI, D.G.; GALJSTASHVILI, V.V.

Behavior of borates and boric acid in boiling reactors. Atom. energ. 16
no.1:65-67 Ja '64. (MIRA 17:2)

KRAYCHIK, M.M., kand.tekhn.nauk; TSKIPURISHVILI, V.B., kand.tekhn.nauk;
Kiyani, D.M., inzh.

Analyzing the causes of failures of the welded structures of the
rolling stock under the conditions of low work stresses. Trudy TSN
II MPS no.260:36-44 '63. (MIRA 16:11)

L 3682-66 EWT(d) IJP(c)

ACCESSION NR: AR5009893

UR/0044/65/000/002/B104/B104

519.3:513.88:513.83

SOURCE: Ref. zh. Matematika, Abs. 2B451

AUTHOR: Takiriya, K. Ye. 44, 85

TITLE: A general problem in the calculus of variations on Banach spaces

CITED SOURCE: Tr. Tbilissk. matem. in-ta, v. 29, 1964, 197-203

TOPIC TAGS: variational calculus, Banach space, operator equation

TRANSLATION: Let E and E_1 be reflexive Banach spaces with countable bases, P the set of elements $x \in E$ which satisfy the operator equation $Ux = \theta_{E_1}$, where U is an operator from E to E_1 , and θ_{E_1} is the zero-element of E_1 . It is assumed that P is a bounded regular set in the sense of Lyusternik. Furthermore, let $f(x)$ be a functional which is a Frechet differentiable on E , $\text{grad } f(x) = Lx$, $df(x, h) = K_x(h)$, $h \in E$, and let K_x^* be the conjugate operator to K_x which has a left inverse K_x^{*-1} . Finally, let K_x and K_x^{*-1} satisfy a Lipschitz condition on P , let (V) be an arbitrary compact homotopy class of sets on P , let $c = \sup_{[v]} \min_v f(x)$, and let E^* and E_1^* be the corresponding spaces conjugate of E and E_1 respectively. The follow-
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ACCESSION NR: AR5009893

ing statements are proven: Theorem 1: If the following conditions are fulfilled:

1) for each $x \in P$ $\|K_x(h)\| < \|K_x\| \|h\|$, $\|K_x^{-1}(g)\| < \|K_x^{-1}\| \|g\|$,
 $g \in E^*$.

2) $f(x)$ is a bounded functional and Lx satisfies a Lipschitz condition on P ; then for each $\epsilon > 0$ there exist elements

$$x_\epsilon \in P \cap (c - \epsilon < f < c + \epsilon), \quad \Lambda x_\epsilon = K_{x_\epsilon}^{-1}(Lx_\epsilon) \in E_1^*$$

and a number $\alpha(\epsilon) > 0$ satisfying the condition of an almost critical point

$$\|Lx_\epsilon - K_{x_\epsilon}^*(\Lambda x_\epsilon)\| < \alpha(\epsilon)$$

where $\alpha(\epsilon) \rightarrow 0$ as $\epsilon \rightarrow 0$. Theorem 2: Let all the conditions of theorem 1 be satisfied except for the boundedness of $f(x)$ and P ; let the operators Lx , K^*x , K^*x^{-1} be weakly continuous in x ; let $f(x)$ be weakly continuous in x and suppose that the

$\lim_{\|x\| \rightarrow \infty} f(x) = -\infty$. Then there exist elements $x \in E, \Lambda \in E_1^*$ and a number $R > 0$ satisfying the conditions

$$Lx = K_x^*(\Lambda), \quad x \in (f - \epsilon) \cap S,$$

where $c = \sup_{[v]} \min_v f(x)$, $[v]$ is a compact homotopy class of sets on $P \cap S$ and

$S(\theta_E, R)$ is the sphere of radius R with center at θ_E .

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ACCESSION NR: AR5009894

UR/0044/65/000/002/B104/B105
519.3:513.88:513.83

22
B

SOURCE: Ref. zh. Matematika, Abs. 2B452

AUTHOR: Tskiriya, K. Ye. 44,55

TITLE: The stability of conditionally critical points of functionals 16,44,55

CITED SOURCE: Tr. Tbilissk. matem. in-ta, v. 29, 1964, 205-211 44,55

TOPIC TAGS: Banach space, linear functional operator, nonlinear functional operator

TRANSLATION: The author investigates certain problems on the stability of conditionally critical points of functionals. Let E and E_1 be Banach spaces, $U(x)$ an operator from E into E_1 , $dU(x, h)$ the Frechet differential of $U(x)$ where $dU(x, h) = Kh$ is an operator from E into E_1 where it is linear in h and non-linear in x , and $K_x = U'(x)$ the derivative of $U(x)$. Furthermore, let $P \subseteq E$ be the set of points $x \in E$ which satisfy the operator equation $U(x) = \theta_{E_1}$ where θ_{E_1} is the zero-element of E_1 , given that $f(x)$ is an everywhere Frechet differentiable functional on E , and let

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ACCESSION NR: AR5009894

$L_{x_0} = \text{grad } f(x)$. The point $x_0 \in P$ is called strongly regular if the operator $K_{x_0}^{-1}$ which is conjugate to K_{x_0} and if E^* , the conjugate space of E , admits a representation $E^* = E_1^* + E_2^*$, where E_1^* is the image of $K_{x_0}^*$ and E_2^* is the complement of E_1^* in E^* . Correspondingly, P is called a strongly regular abstract surface if each point of P is strongly regular. If $x_0 \in P$ is a regular point of the functional $f(x)$, then, by a theorem of L. A. Lyusternik, there exists a critical functional $\Lambda_{x_0} \in E_1^*$ such that $L_{x_0} = K_{x_0}^*(\Lambda_{x_0})$. The author proves that if the operator K_{x_0} is continuous at a strongly regular point $x_0 \in P$ (in which case we have $E^* = E_1^* + E_2^*$), then there exists a strongly regular non-empty neighborhood $S_{x_0}(\eta)$. Furthermore, let

let T_0 be the space of the zero operator K_{x_0} , I the identity operator, $\{G_1^*\}$ the space of twice differentiable functionals $f(x)$ with norm

$$\|f\|_{G_1^*} = \sup_{S_{x_0}(\eta)} \{ \|f(x)\| + \|f'(x)\| + \|f''(x)\| \}, L_x = f'(x)$$

x_0 is the critical point of $f(x)$ on P , i. e. the solution of the Euler-Lagrange functional equation $L_{x_0} - Q_{x_0}(L_{x_0}) = \theta_{E^*}$.

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The author poses the problem of the existence in $S_{x_0}(\eta) \cap P$ of a critical point of the perturbed functional $f(x) + \Delta f(x)$ under small perturbation of $\Delta f(x)$ in the norm of the space G_1^n . It is proved that if 1) $x_0 \in P$ is a critical point of $f(x)$, 2) $f(x)$ and $U(x)$ are twice Frechet differentiable, 3) $S_{x_0}(\eta) \cap P$ is a strongly regular neighborhood, 4) the operator

$$A_{x_0} = (I - Q_{x_0})L'_{x_0} - Q'_{x_0}(L_{x_0})$$

acting from T_0 into E^* , has an inverse, then x_0 is stable, i. e. there exists $\tau > 0, \eta > 0$ such that the perturbed functional $f(x) + \Delta f(x)$, in the norm $\|\Delta f\|_{G_1^n}$ has at least one critical point $x_0 + \Delta x_0 \in P$.

where $\|\Delta x\| \leq \eta$ and $\eta \rightarrow 0$ as $\tau \rightarrow 0$. Under slight perturbation of the function, the critical function is only slightly perturbed, and if $E = T_0 + T_1$, then a unique critical point and a unique critical function corresponds to each perturbation of the functional. If $f'(x)$ and $U'(x)$ satisfy a Lipschitz condition and $(1 + \|Q_{x_0}\|)C_L^n + \|L_{x_0}\|C_L^n < 1$,

where C_L^n is the constant Lipschitz operator of $f'(x)L$, then x_0 is stable in the norm of the space G_1^n under small $\|\Delta f\|_{G_1^n}$.

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Card 3/3 *ke*

VASIL'YEVA, M.G.; LALYKINA, V.M.; MAKHARASHVILI, N.A.; SOKOLOVA,
A.L.; SOYFER, V.M.; ~~TSKIRIYA, N.G.~~; BARON, Ye.Ye.,
doktor khim. nauk, red.

[Analysis of boron and its inorganic compounds] Analiz bora
i ego neorganicheskikh soedinenii. Pod red. E.E.Baroni.
Moskva, Atomizdat, 1965. 267 p. (MIRA 19:1)

TAVADZE, F.N.; TSKITISHVILI, M.D.; BAGDAVADZE, D.I.

Effect of additions of nitrogen, boron and carbon on the heat
resistance of chromium-nickel alloys (with 10% of nickel). Trudy
Inst. met. AN Gruz. SSR vol. 13:57-63 '62. (MIRA 17:9)

ACCESSION NR: AF4027683

s/0276/64/000/001/G009/G009

SOURCE: RZh. Tekhnologiya mashinostroyeniya, Abs. 1G66

AUTHOR: Tavadze, F. N.; Tskitishvili, M. D.; Bagdavadze, D. I.

TITLE: The effect of additions of nitrogen, boron, and carbon on the heat resistance of chromium-nickel alloys (with 10% nickel)

CITED SOURCE: Tr. In-ta metallurgii. AN GruzSSR, v. 13, 1962(1963), 57-63

TOPIC TAGS: heat-resistant alloy, chromium-nickel alloy, alloy additive

TRANSLATION: The addition of up to 0.5% nitrogen noticeably increases heat resistance. Increasing the nitrogen content in alloys is desirably, but limited due to the complication of sample smelting technology. The addition of boron up to its solubility limit gives even better results. The addition of boron with the separation of the excess phases decreases heat resistance. The addition of up to 0.25% carbon increases heat resistance by an insignificant amount. Increasing the carbon content to 0.5% results in a sharp deterioration of heat resistance due to the separation of the unstable carbides.

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SOV/137-59-5-10709

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 179 (USSR)

AUTHORS: Tavadze, F.N., Tskitishvili, M.D.

TITLE: The Structure and Some Properties of Alloys of the Mn_3Si - Fe_3Si_2 System

PERIODICAL: Tr. In-ta metallurgii, AS Georgian SSR, 1958, Vol 9, pp 71 - 75
(Georgian, Russian résumé)

ABSTRACT: Alloys of the $Mn_3Si-Fe_3Si_2$ system consist mainly of solid solutions. In an alloy with 70% Fe_3Si_2 , the presence of a chemical compound of $Fe_{12}Si_{11}Mn_5$ composition can be assumed according to the decrease in hardness and electric resistance. The alloys investigated become brittle after heating and cooling off within a range of 200° - 500°C.

L.V.

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L 36463-66 EWP(m)/T/EWP(e)/EWP(t)/EPI IJP(e) JD/WB
ACC NR: AR6009968 SOURCE CODE: UR/0137/65/000/012/I058/I058

AUTHOR: Tavadze, F. N.; Tskitishvili, M. D.; Mandzhgaladze, S. N.;
Lashkhi, T.

ORG: none

TITLE: Effect of small boron additions on the heat and corrosion
resistance of multicomponent chromium-manganese alloys

SOURCE: Ref. zh. Metallurgiya, Abs. 121437

REF SOURCE: Tr. Gruz. in-t metallurgii, v. 14, 1965, 109-122

TOPIC TAGS: boron, austenite, chromium containing alloy, manganese
resistance, solubility

ABSTRACT: A study was made of the relationship between heat and
corrosion resistance and structure of austenitic Cr-Mn alloys in solid
solution (low-alloyed with boron, nitrogen and carbon) composed
(in %) of Cr, 15.0; Mn, 15.0; W, 0.5; Mo, 0.5; Nb ~ 0.5. The heat

UDC: 669.15.018.8:620.193

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L 46322-66 EWT(m)/EWP(j) RM
ACC NR: AP5025128

SOURCE CODE: UR/0079/65/035/010/1811/1814

AUTHOR: Tsiyunin, V. S.; Gil'm Kamay; Shagidullin, R. R.; Khisamutdinova, R. Sh. 12
B

ORG: none

TITLE: Condensation reaction of diethyl(diphenyl)chlorophosphine with α,β -dichloroethylalkyl
ethers

SOURCE: Zhurnal obshchey khimii, v. 35, no. 10, 1965, 1811-1814

TOPIC TAGS: condensation reaction, ether, chemical reaction, DIETHYL ETHER, DIPHENYL
COMPOUND

ABSTRACT: Diethyl- and diphenylchlorophosphine formed with α,β -dichloroethylbutyl ether a complex as expected from their reaction with α -chloroethylalkyl ether, but hydrolysis or alcoholysis of the reaction product was followed by dehydrochlorination to give diethyl- and diphenyl- α -butoxyvinylphosphine oxide, respectively. Similarly, complex formation of diphenylchlorophosphine with α -chloroethyl- β -chloroethyl ether, alcoholysis and thermal dehydrochlorination during distillation produced diphenyl-α -vinylxyethylphosphine oxide. Hydrolysis of diethyl- α -butoxyvinylphosphine oxide gave diethylacetylphosphine oxide, and infrared spectroscopy of the latter indicated its enol-ketol tautomerism. The starting compounds reacted under cooling in a CO₂ atmosphere at 0°C to give viscous complexes, and

UDC: 546.185+547.431.4:541.49

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